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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,605	11/24/2003	Nobuyuki Hatasa	01272.020648.	1005
5514	7590	08/10/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			MARTIN, LAURA E	
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NEW YORK, NY 10112			PAPER NUMBER	
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DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/718,605	Applicant(s) HATASA ET AL.	
	Examiner Laura E. Martin	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04/08/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al (US 2001/0026306) in view of Koitabashi et al (US 5742311).

As per claims 1 and 8, Yamazaki et al. teaches a liquid container (ink cartridge Fig 15.1C) storing a liquid (pigment based ink P80, L4) that forms a plurality of concentration layers in a static state (P6, L3-5) and having a supply port (ink delivery block Fig 15.26 with communication passage (Fig 15.27) for supplying the liquid to another device. Yamazaki et al. teaches said liquid container (ink cartridge Fig 15.1C) comprising of a hollow tubular member (head needle Fig 15.10) whose one end installed in the liquid container is connected to the supply port (Figs 15.26 and 15.27) and at least one liquid supply hole (ink passage Fig 15.8) formed in the tubular member (Fig 15.10). Yamazaki et al. also teaches a liquid (ink P80, L4) in the liquid container (Fig 15.1C) being introduced into the tubular member (Fig 15.10) through the liquid

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supply hole (Fig 15.8) and the liquid (P80, L4) thus introduced is supplied from the supply port (Figs 15.27 and 15.27) to another device (P83, L15-17).

Yamazaki et al. does not teach an air introducing port. Koitabashi et al. teaches an air introducing port (clearance at bottom of cartridge Fig 2.18) provided at the bottom of the tubular member to introduce air into the tubular member (Fig 2.4). It would have been obvious to one of ordinary skill in the art to combine the teaching of Yamazaki et al. with that of Koitabashi et al. because air bubbles would agitate the liquid, decreasing the possibility of sedimentation in the ink cartridge.

As per claim 2, Yamazaki et al. teaches a tubular member extending vertically upward (Fig 15.10, tube is in the vertical position) from a bottom (Fig 15.27) of the liquid container (Fig 15.1C) to a height almost equal to an inner height of the liquid container (tubular member extends into the ink reservoir P82, L9) and has the liquid supply hole (Fig 15.9) formed therein at a plurality of vertically spaced locations (Fig 15.9), and the plurality of liquid supply holes each introduce nearby liquid (P83, L15-17) into the tubular member (Fig 15.10).

As per claim 4, Koitabashi et al. teaches a liquid container (Fig 3.1) wherein at least one of the liquid supply holes (clearance Fig 3.8) is as large as will allow the bubble introduced from the air introducing port (air vent Fig 3.13) to move therethrough out of the tubular member (as shown in Fig 3, air moves through the ink cartridge to the top where it is dissipated).

It would have been obvious to one having skill in the art at the time of the invention to combine the teaching of Yamazaki et al. with that of Koitabashi et al.

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because air bubbles would agitate a liquid, decreasing the possibility of sedimentation in the ink cartridge.

Claims 3, 5, 6, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al (US 2001/0026306) and Koitabashi et al (US 5742311) as applied to claim 1 above, and further in view of Shimizu et al. (US 2003/0085968).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

As per claim 3, Shimizu et al. teaches a liquid container (Fig 1.1000) wherein the air introducing port (needle Fig 4.529) is provided in the bottom of a liquid container (Fig

1.1000) and the air introduced into the tubular member (Fig 4.107) through the air introducing port (Fig 4.529) rises as a bubble in the tubular member (when small amounts of air is ejected into liquid, it forms a bubble; air will rise from air chamber Fig 4.107 to cartridge Fig 4.200) to agitate the liquid inside the tubular member (cylindrical portion Fig 4.107 agitates ink to decrease sedimentation P69, L10+).

As per claims 5 and 6, in accordance with claim 1, Shimizu et al. teaches a liquid container (Fig 4.200) wherein the liquid supply holes (Fig 4.82) are open in the tubular member (tubular member Fig 4.107 is attached to air introducing needle Fig 4.529 that is attached to the buffer chamber that is attached liquid supply port Fig 4.526 that is attached to recording head 4.524 on which liquid supply holes Fig 4.82 are located P64, L1+) in a direction at a predetermined angle (P63, L7) to a center axis of the tubular member (all liquid supply holes Fig 4.82 are located at a 90° angle – perpendicular – to the tubular member; all liquid supply holes face recording medium P63, L4).

As per claim 7, Shimizu et al. teaches a liquid container (Fig 1.1000) wherein the tubular member (Fig 4.107), the supply port (Fig 4.526), and the air introducing port (Fig 4.529) combined to form an integral connection unit removable from the liquid container (P61, L1-4).


It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Shimizu et al. with those of Yamazaki et al. and Koitabashi et al. in order to improve upon the printing quality of the cartridge by preventing ink sedimentation and to create container that ejects ink that is of a consistent density.

As per claim 9, as noted in reference to claim 1, Shimizu et al. teaches an ink jet printing apparatus (P1, L1-2), which mounts (P129, L3+) the liquid container of claim 8 and performs a printing operation by ejecting ink from a print head (Fig 4.524) onto a print medium (P2, L6-7), the ink jet printing apparatus comprising: a supply means for (Fig 4.525) for communicating the supply port (Fig 4.526) with the print head (Fig 4.524); wherein the supply means (Fig 4.525) extracts ink from the liquid container (4.200) and supplies it to the print head (Fig 4.524) as the ink is consumed by the print head (P64, L7+).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David M. Gray can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


RENEE LUEBKE
PRIMARY EXAMINER

Laura E Martin